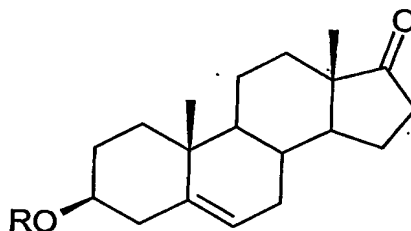


## Claims:

1. A process for preparing 7-hydroxy-5-androstene steroids comprising the steps of:

- 1) contacting a 5-androstene steroid of Formula I



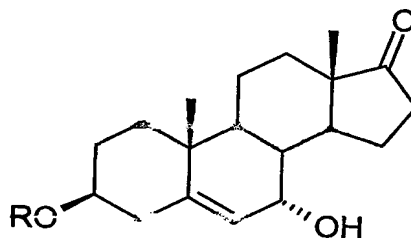
Formula I

wherein:

R is H or -COR';

R' is alkyl of 1 to 5 carbons;

with a species of *Mucor* capable of performing a microbial transformation in a liquid culture at a steroid concentration of 1 gram per liter or greater to give a 7 $\alpha$ -hydroxy-5-androstene steroid of Formula II;

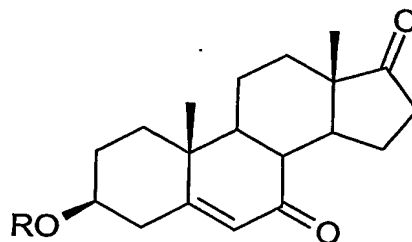


Formula II

- 2) isolating the 7 $\alpha$ -hydroxy-5-androstene steroid of Formula II from the liquid culture of step 1).

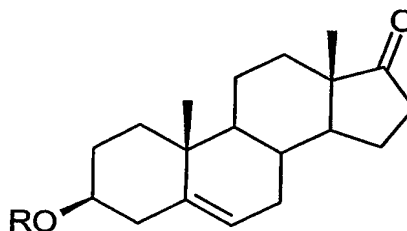
2. A process according to claim 1 further comprising the steps of:

- 3) contacting a 7-hydroxy-5-androstene steroid of Formula II in a liquid culture with any bacterium belonging to the genus *Escherichia*, *Alcaligenes*, *Clostridium*, *Eubacterium*, or *Bacteroides*, containing a 7 $\alpha$ -hydroxysteroid dehydrogenase capable of oxidizing 7 $\alpha$ -hydroxy-5-androstene steroids to a 7-oxo-5-androstene steroid of Formula III;



Formula III

- 4) isolating the steroid of Formula III from the liquid culture of step 3.
- 5 3. A process for preparing 7-oxo-5-androstene steroids comprising the steps of:
- 1) contacting a 5-androstene steroid of Formula I



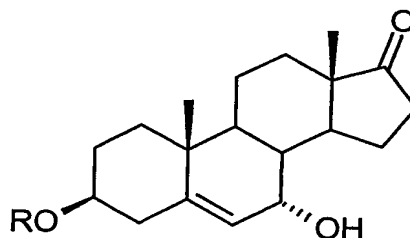
Formula I

wherein:

10 R is H or -COR';

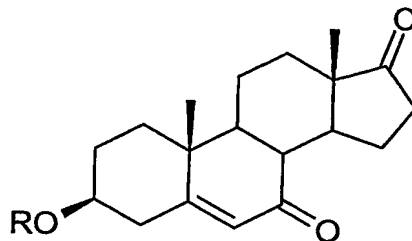
R' is alkyl of 1 to 5 carbons;

with a species of *Mucor* capable of performing a microbial transformation in a liquid culture to give a 7 $\alpha$ -hydroxy-5-androstene steroid of Formula II;



Formula II

- 2) isolating the 7 $\alpha$ -hydroxy-5-androstene steroid of Formula II from the liquid culture of step 1);
- 3) contacting a 7-hydroxy-5-androstene steroid of Formula II in a liquid culture with an *Escherichia* species capable of oxidizing 7 $\alpha$ -hydroxy-5-androstene steroids to a 7-oxo-5-androstene steroid of Formula III;

**Formula III**

- 4) isolating the steroid of Formula III from the liquid culture of step 3.
- 5
4. A process according to Claim 1 wherein the *Mucor* species is *Mucor rouxii*.
5. A process according to Claim 1 wherein the *Mucor* species is *Mucor rouxii* ATCC 4260.
- 10
6. A process according to Claim 2 wherein the *Mucor* species is *Mucor rouxii*.
7. A process according to Claim 2 wherein the *Mucor* species is *Mucor rouxii* ATCC4260.
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